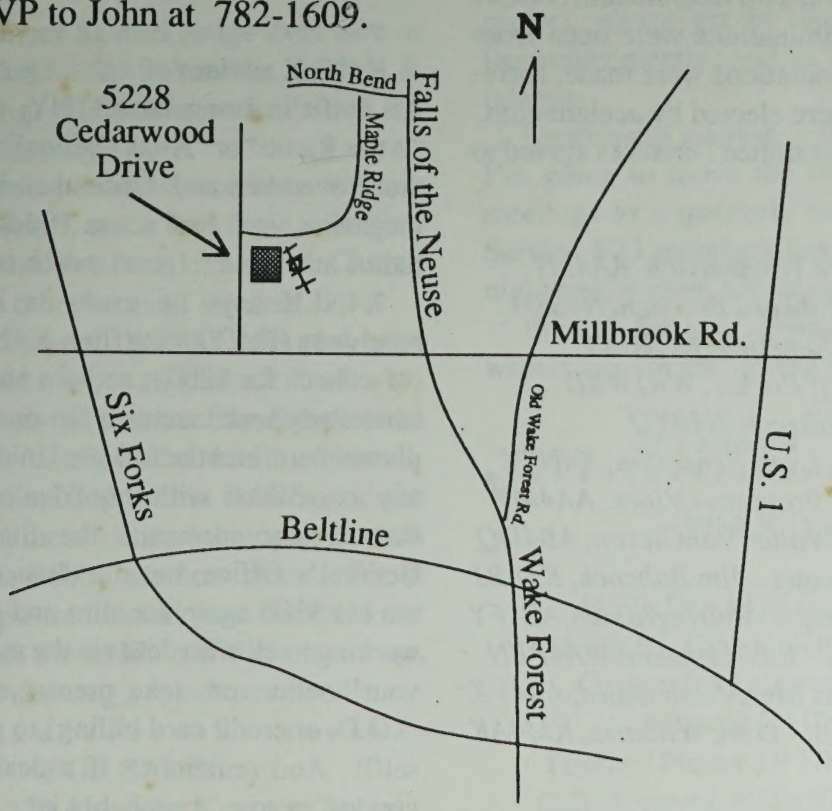
The RARS EXCITER

Issue 225 December 1988 Repeater: W4DW / R 146.04/64 MHz

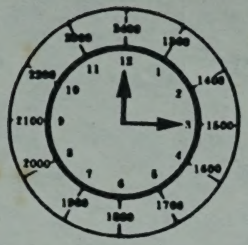
The RARS Christmas Party

December 11th , 7:00PM

Hosted by John, KK4JB and Marlene, KC4CPC Thomas, This year's RARS Christmas party invites all to share in the festivities and fellowship of the season. See the Map below for directions and/or listen to W4DW -146.04/64 for talk-in. Please RSVP to John at 782-1609.



Editor: Vince Yakamavich, AA4MY - 220 Carriage Trail, Raleigh, NC 27614 - 847-8512



MINUTES OF THE MEETING

The regular monthly meeting of the Raleigh Amateur Radio Society was held Nov. 2, 1988 at the YMCA on Hillsborough Street. President Pete Thacher, N4HQZ, called the meeting to order and welcomed the 93 members and 18+ guests. The first item of business was nominations and elections of club officers for the 89-90 term. The two open positions were Vice President and Treasurer. The Nominating Committee recommended John Thomas, KK4JB, for VP, and Tim Buehlmann, N4IQA for treasurer. Nominations were open from the floor. No nominations were made, therefore, the above were elected by acclamation. The following Committee Directors agreed to serve for 1989:

Newsletter - *Vince Yakamavich, AA4MY*
Public Service - *Edward Breeden, N4SSU*
Publicity - *Tom Campbell, KC4GRT*
FM Repeater - *Jeff Parker, WA1WXL*
Training - *Jim DuBreck, N4BYO*
W4DW Trustee - *Lynn Pendelton, K4NYV*
Volunteer Exam. Program - *Vince, AA4MY*
Special Events - *Walter VanGieson, AB4DQ*
2 Meter Net Manager - *Jim Babcock, K4ABJ*
10 Meter Net Manager - *Rob Ingraham, AB4FY*
SIG Coordinator - *Ed Alderman, WA4PEN*
Operating Awards Mgr. - *Ron Oates, AA4VK*
Hamfest Chairman - *Dave Williams, KM4AK*

Pete told the group of recent complaints pertaining to smoking during our meeting. Discussion from the floor followed. A motion was made and seconded to ban smoking from the meeting room.

Of the members present, the vote was in the majority to ban smoking. There being no further business, the annual auction started. The bidding concluded approx. 9:30 PM, followed by buyer and seller transactions.

Sue Meyer Parks, WB4USX
RARS Secretary

Warning: HAM SHAM

K4NLK advises of a sham going around... An outfit in Long Island, NY, calling itself "Atlas Radio" or "Atlas Uniden" advertised in the November and December issues of 73 magazine, and had some Uniden 10 meter radios at a price to good too be true.

K4NLK says he made an inquiry, and received a slick looking flier. K4NLK shipped off a check for $200+, and got nothing but his cancelled check in return. No-one answers the phone there, and the folks at Uniden dis-avow any association with this "dealer." K4NLK has already contacted the State Attorney General's Office, but the chances he'll ever see his $200 again are slim and none. Just a warning to all who deal via the mails — know your seller, or take precautions (such as C.O.D. or credit card billing) to protect yourself!! And remember: if a deal sounds too good to be true, it probably is!

WELCOME
NEW MEMBERS

RARS extends a hearty "WELCOME" to three new members this month, all graduates of the RARS Fall Novice / Tech class:

Pete Memolo
Samuel Judge
Sam Johnson

New member Pete Memolo lives in Wendell, and is also a Model Railroading enthusiast, & a member of the Smithstonian (National Air & Space Museum) Institution. Pete says he became interested in hamming through SWLing.

New member Samuel Judge lives here in Raleigh, is interested in hunting, fishing, & woodworking. He's also a member of the Masonic Fraternity.

New member Sam Johnson is an attorney living in Raleigh, and is interested in writing & sports, and lists the Lions and Church activities as other areas of interest.

We wish you all WELCOME, and hope that you will choose to become "radio-active" and enjoy all that our fine organization has to offer. You'll find a wealth of knowledge and friendship within RARS, and the members are most willing to help new comers in this great hobby we now share. We at RARS are pleased to add your names to our roster. With the addition of these members, RARS now shows 261 paid members!!

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FOR SALE!!

Heath SB-220 Amplifier Contact Charles Casey, AA4BA, @ 772-1428

Public Service Watch

The Public Service SIG met on Wednesday, Nov. 9th at Dean Witter Building on Six Forks Rd. Despite the sparse turn-out, those who attended gained much from the meeting. Reed Whitten, N.C. section manager for the ARRL spoke to us on the role of emergency communications and ham radio.

Reed addressed the need for qualified and trained operators and gave the SIG some great ideas for our Public Service work.

For the last several years, RARS has set up a public service station at Crabtree Valley during the last week before Christmas to pass messages via the national traffic system. So far I've gotten no response as to interest in the project, please get in touch by or at the December meeting and let's see if there's any interest.

Speaking of interest, with the holidays, etc. I'm going to move the Public Service SIG meetings to a quarterly basis. If the Public Service SIG members have a preference on night and/or time, please contact me.

Enough for now, I want extend my best wishes to all of you during the holiday season.

73's Edward - N4SSU

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FOR SALE!!

Heath HD-1410 Iambic Keyer
Heath IG-1271 Function Generator
Cushcraft 11 element 2 M yagi
Alliance U110 Rotor
Printer / Plotter for HP41 calculator
Call Heyward, N4RGG, @ 779-6847

LEADING EDGE

SHERMAN STARNES
W4TZU

Saturday, November 12 was a red letter day for me. The AMSAT Space Symposium and annual meeting was always held in the Washington-Baltimore area until the year I planned to attend. Then it moved to the west coast, Denver, Detroit, Dallas... all a bit farther than I was willing to go. This year it came to Atlanta and I jumped at the opportunity.

The day was crammed with the presentation of papers on current and future activities related to amateur radio space communications and research. Authors included a former AMSAT president, a principal designer of the TAPR-1 and TAPR-2 TNCs and writers of some of the best in satellite tracking programs. I am not greatly excited about packet radio but it was exciting to hear from the people designing the MICROSAT satellites which will carry packet radio into space next year.

I knew that the MICROSAT was a nine inch cube but I didn't realize how small a nine inch cube is until I saw the satellite and what has been stuffed into it.

Lyle Johnson, WA7GXD, the TAPR engineer, described the computer he designed for MICROSAT. The PC board is seven inches square. It carries an NEC V40 processor which runs a superset of the 8088 instructions. It is a highly integrated surface mount device and includes a 4 channel DMA controller, clock generator, UART, 3 sixteen bit timers, 8 input priority interrupt controller and bus interface logic/drivers.

The computer is provided with 256K of error detection and correction memory for program storage. The memory words for this section are 12 bits to provide detection and correction for single bit errors in each 8 bit byte. Other operating memory consists of four banks of 512K bytes each. Mass storage is presently 8 megabytes of serial access RAM but by flight time the availability of newer devices might allow as much as 32 megabytes. The seven inch square computer module is 1.5 inches high and consumes 1.5 watts. It contains half a billion transistors and is said to be the equivalent of an IBM PC/XT Turbo.

The MICROSAT does have radios aboard. It will receive on five channels on two meters. Four of these will be available for general use by packeteers. The fifth channel is reserved for spacecraft command and control. The uplink channels can be commanded to handle 1200, 2400, 4800 and possibly 9600 BPS. The receiver runs on 150 milliwatts.

The user operating system on MICROSAT will look very much like a W0RLI BBS. Unlike a terrestrial BBS, however, the spacecraft will transmit on a band different from the one on which it receives. The downlink will be on 70 cm where a single output channel will serve the four input channels. The transmitter has selectable output power levels of 1.5 or 4 watts. The design of this MICROSAT module was up in the air until Jan King, W3GEY, AMSAT VP for Engineering, met a brilliant young Fulbright Scholar from Yugoslavia who

Please Turn to Page 18

December 1988 RARS Roster (261 Members)
Listed by Amateur Call Suffix

Prefix	Suffix	Name	Address	City, State	Zip	Phone
		FOLTZ, JOHN J.	4505 COBBLER PL	RALEIGH, NC	27613	881-0716
		JOHNSON, MEL	PO BOX 31142	RALEIGH, NC	27622	787-8220
		JOHNSON, SAM	BOX 31067	RALEIGH, NC	27622	787-0603
		JUDGE, SAMUEL R.	208 REYNOLDS RD.	RALEIGH, NC	27609	787-8054
		JURNEY, BILL	P.O. BOX 40445	RALEIGH, NC	27629	878-8799
		McALISTER, SIDNEY	2620 SWEETGUM DRIVE	APEX, NC,	27502	362-6137
		MEMOLO, PETE	6276 STAG TRAIL	WENDELL, NC	27591	-
		PLAKS, DORIS	1205 COUNTRY RIDGE RD.	RALEIGH, NC	27609	876-4192
		POWELL, THERMAN	5513 LACY RD.	DURHAM, NC	27713	
		TANKERSLEY, LARRY	6132 VICKY DR.	RALEIGH, NC	27603	772-5408
		WATKINS, JOSEPH C.	501 LOCUST LN.	RALEIGH, NC	27603	772-5452
		WILLIAMS, ELIZABETH	4008 LIVE OAK RD.	RALEIGH, NC	27604	834-2710
K4	ABJ	BABCOCK, JAMES	611 VICK AVE.	RALEIGH, NC	27612	787-7816
W2	AC	GREENBERG, HARRY	2401 COVERED BRIDGE RD	CLAYTON, NC	27520	553-4309
KB2	ACE	REYNOLDS, MATT	705 RADBURN PL.	RALEIGH, NC.	27612	848-3894
W4	ACY	WICKER, PHIL	4821 HILLTOP DR	GREENSBORO	27407	299-9187
WA4	AFB	BROWNE, ALAN	2401 GUILFORD	BALTIMORE,	21218	-
N4	AFO	CAUDELL, BENNY	508 EMERSON DR	RALEIGH, NC	27609	787-5936
KC4	AHG	BARHAM, JOHN	BOX 754	WENDELL, NC	27591	365-6060
WD2	AJJ	PALESTINO, ANTHONY	6402 L THE LAKES DRIVE	RALEIGH, NC	27609	846-4056
KM4	AK	WILLIAMS, DAVE	4008 LIVE OAK RD.	RALEIGH, NC	27604	834-2710
WA4	AOO	BRADLEY, JIM	RT. 1 BOX 145	APEX, NC	27502	779-8840
WA4	APK	BRADLEY, ANN	RT. 1 BOX 145	APEX, NC	27502	779-8840
KC4	AQB	KELLUM, ANITA	208 CHATTERSON DR.	RALEIGH, NC	27615	846-7455
KC4	AQC	DELLA FAVE, RENARD	6021 WINTERGREEN DR.	RALEIGH, NC	27609	787-8396
KB4	AQH	ROGERS, ANNETTE	5312 KIRKWOOD CT.	RALEIGH, NC	27609	787-7486
N1	BA	RANSIER, BILL	8200 HAMBLEDON CT	RALEIGH, NC	27615	846-2692
W2	BBN	BRANDBERG, WM	714 GLASCOCK ST	RALEIGH, NC	27604	833-9640
WA2	BDW	MOAK, NORMAN	4749 MILL VILLAGE RD.	RALEIGH, NC	27612	782-2399
KC4	BKR	MELEG, DAVID E.	5420 OLD TOWNE RD.	RALEIGH, NC	27612	787-7456
KI4	BP	BRAME, WALLACE	912 N. BLOUNT ST	RALEIGH, NC	27604	828-5088
SM0	BRU	BRUNN, ROBERT	414 OAKRIDGE RD	CARY, NC	27511	469-3347
KM4	BU	PRICE, WALTER	420 OAK RIDGE	CARY, NC	27511	481-3856
N4	BYO	DuBRECK, JIM	1209 SHELLY RD.	RALEIGH, NC	27609	781-9437
KC4	CFG	WARD, RICK	PO BOX 145	ATLANTIC, NC	27851	
AB4	CH	ROEBUCK, MICHAEL	2216 REGINA DR	RALEIGH, NC	27603	772-9051
WB4	CJQ	EPPERSON, DARRELL	3404 GREENVILLE LOOP RD	WAKE FOREST	27587	266-7261
WB4	CLA	RADFORD, BILL	3844 MARSH CREEK RD.	RALEIGH, NC	27604	872-2000
WA4	CLT	WHETZEL, V.L. PAT	1025 INDIAN TRAIL	RALEIGH, NC	27609	876-6055
WA0	CMO	JURGENS, CHUCK	4708 WILDWOOD ST.	RALEIGH, NC	27612	787-2020
KC4	COY	COATES, GARY D.	2214 PRINCE ST.	DURHAM, NC	27707	489-8593
KC4	CPC	THOMAS, MARLENE	5228 CEDARWOOD DR.	RALEIGH, NC	27609	782-1609

KC4	CRT	McDANIEL, CHARLES	6400 GAINSBOROUGH DR.	RALEIGH, NC	27612	787-5130
KC4	CU	ROBERTSON, C. STEV	900 CURRITUCK DR.	RALEIGH, NC	27609	781-7619
KA3	CVE	CHURCH, MRS. DORTH	27 FEARINGTON POST	PITTSBORO,	27312	967-6915
KA1	CYF	BORDT, RAY	5304 COLLINGSWOOD DR.	RALEIGH, NC	27609	787-7786
WB4	DCM	SWINDELL, CHARLES	6805 PERKINS DR	RALEIGH, NC	27612	848-0410
N4	DGZ	STOKLEY, RICHARD	1704 NEATH HILL CT	RALEIGH, NC	27610	839-2062
KC4	DHS	LASSITER, GLENN B.	P.O. BOX 194	APEX, NC	27502	387-0158
W4	DHW	WHITEHURST, LAWERE	175 BROOKE DRIVE	VENETIA, PA	15367	
KA8	DNP	RECK, FRANCIS J.	301 MILL CREEK DRIVE	FUQUAY VARI	27526	
AB4	DQ	VAN GIESON, WALTER	201 WALDEN PLACE	RALEIGH, NC	27609	782-1424
WB4	DRJ	ROGERS, LEE	5312 KIRKWOOD CT	RALEIGH, NC	27609	787-7486
K4	DRT	STROUPE, MIKE	4716 STONEHILL ST	RALEIGH, NC	27609	787-6729
W8	DTD	BLISS, PETER	8701 KINGS MILL PL	RALEIGH, NC	27614	847-8704
KI4	DV	WEATHERFORD, BOB	200 SANDHURST RD	RALEIGH, NC	27615	846-5958
K4	DWQ	MARTIN, JACK R.	RT 4 BOX 284 21 JOYCE RD	HILLSBOROUG	27278	732-3531
KC4	DWR	SCARROW, STEPHEN F	7601 FALLS OF NEUSE RD	RALEIGH, NC	27615	848-2445
N 4	ECU	BRACK, FRED	500 EMERYWOOD DR	RALEIGH, NC	27615	847-7268
KK4	EF	SNYDER, KERRY	5105 FORT SUMTER RD	RALEIGH, NC	27606	859-9587
WD4	EIQ	CONROY, LOU	PO BOX 1064	CLAYTON, NC	27520	-
AB4	EL	MODENA, STEPHEN A.	19 DIXIE TRAIL	RALEIGH, NC	27607	737-2246
WD8	ENW	STONE, CHARLIE	6724 WATER OAK DR.	WILLOW OAK,	27592	552-8605
WA4	ENZ	HOMOVEC, JOSEPH	4135 ROCKINGHAM ST.	RALEIGH, NC	27609	787-2150
AB4	EO	LISENBE, MICHAEL	1916 RED OAK LN.	CLAYTON, NC	27520	553-7933
KC4	EOG	LASSITER, CHRIS	153 TUCKER, BOX 4660	NCSU RALEI	27607	737-5105
WB4	EOV	FEEHAN, WILLIAM	4412 YADKIN DR.	RALEIGH, NC	27609	781-6575
KM4	EP	DIEPENBROCK, JAY	4121 STAGWOOD DR.	RALEIGH, NC	27612	781-2682
W3	EPA	CHURCH, H.E.	27 FEARINGTON POST	PITTSBURO, NC	27312	967-6915
KB4	EXL	REAMS, SHERRY L.	3509 ROLESVILLE RD.	WENDELL, NC	27591	266-4434
W3	EZR	MOATES, ROGER	3300 BARNESLEY LN	RALEIGH, NC	27604	876-0691
W2	EZS	REYNOLDS, PAUL	705 RADBURN PL	RALEIGH, NC	27612	848-3894
WK2	F	SINGER, ANDREW	10 BERKSHIRE PL	SMITHFIELD,	27577	934-7979
K4	FAD	MENTHA, JOHN	5124 SWISSWOOD DR	RALEIGH, NC	27612	846-0473
KC4	FBW	PEAKS, JR., JAMES	3536 MAYFAIR ST., APT. 1	DURHAM, NC	27707	489-4865
KC4	FCC	JEFFRIES, THOMAS	125-A BROOKS AVE.	RALEIGH, NC	27607	839-0572
KC4	FGG	YOUNG, ROBERT	PO BOX 157	FUQUAY-VARI	27526	552-8788
K4	FMW	BROWNING, ROBERT	3910 WENDY LN.	RALEIGH, NC	27606	851-5567
W4	FNB	HALES, WILLIAM	3209 DELL DR.	RALEIGH, NC	27609	782-2522
AB4	FR	BROWN, CLAY	804 BUCKLE CT.	RALEIGH, NC	27609	846-7499
AB4	FY	INGRAHAM, ROBERT	P.O. BOX 31201	RALEIGH, NC	27622	848-1382
KN4	G	PLAKS, NORMAN	1205 COUNTRY RIDGE	RALEIGH, NC	27609	876-4192
NA4	G	KEYS, ROBERT D.	7604 MINESHAFT RD.	RALEIGH, NC	27609	847-0069
KC4	GBR	BURCHETTE, TONY	4704 WATERBURY ROAD	RALEIGH, NC	27604	876-6853
N4	GC	COHEN, GERRY	8909 TAYMOUTH CT	RALEIGH NC	27613	848-9186
KC4	GFR	STEGALL, RANDY	1319 CURFMAN ST.	RALEIGH, NC	27603	833-4737
K4	GHJ	DIETER, DONN	4809 RADCLIFF RD	RALEIGH, NC	27609	782-5776
W2	GHK	MEYER, STUART	2417 NEWTON ST	VIENNA, VA	22180	-
WA4	GIR	WHITE, JOE	4320 RYEGATE DR	RALEIGH, NC	27604	876-5856
KC4	GNM	ROSENBERG, MIKE	4504 COBLER PLACE	RALEIGH, NC	27613	782-4309

K4	GOE	MULLIS, AL	7001 RAINWATER RD.	RALEIGH, NC	27615	850-0640
KC4	GRT	CAMPBELL, THOMAS H	800 LAKESTONE DR	RALEIGH, NC	27609	781-3728
KC4	GRV	SHACKLEFORD, WILLI	RT. 2, BOX 294-HH	CREEDMORE,	27522	528-3444
NY4	H	SILVER, MARTY	3118 ETON RD	RALEIGH, NC	27608	787-9882
KC4	HAF	STAFFORD, MELISSA	RT. 2, BOX 249-2A	ROUGEMONT,	27572	471-0766
K4	HCG	WISDOM, JIM	3308 COBBLESTONE CT	RALEIGH, NC	27607	782-4098
K4	HF	LITTLEWOOD, CHUCK	2005 QUAIL RIDGE RD.	RALEIGH, NC	27609	872-6555
KK4	HI	WILLIAMS, DAVID M.	224-6 STONEHENGE DR.	RALEIGH, NC	27615	846-5058
N2	HJK	ALLIKAS, PAUL	10500 LEAFWOOD PL	RALEIGH	27612	870-1631
K4	HJK	McDERMOTT, Father	RFD 1, BOX 50-D	GLASGOW, VA	24555	-
K4	HKQ	TEAGUE, ROBERT M.	2900 GLEN BURNIE	RALEIGH, NC	27607	781-9699
N4	HKR	LAUR, STEVEN A.	5705 OLD FORGE CIRCLE	RALEIGH, NC	27609	872-2694
N4	HQZ	THACHER, PETE	1108 STEINBECK DR	RALEIGH, NC	27609	876-4073
WD4	HSI	WEST, C.T	1611 CRAIG ST.	RALEIGH, NC	27608	834-5420
KB4	HYF	RAITER, TERRY	3708 OAK PARK RD	RALEIGH, NC	27612	787-1233
W1	HZQ	THACHER, COLEMAN	417 MYRTLEWOOD CT.	RALEIGH, NC	27609	781-1532
KA5	IEC	MARTIN, JAMES T.	4100 DURALEIGH RD.	RALEIGH, NC	27612	781-6592
K2	IMO	KLINO, HOWARD L.	5713 RIVERFORD DR.	RALEIGH, NC	27604	876-9194
WB4	INM	COURTNEY, DIANNE	6933 WADE DRIVE	APEX, NC	27502	362-7037
WN4	INZ	GWYER, CHESTER V.	4913 CINDY DRIVE	RALEIGH, NC	27603	779-2340
N4	IQA	BUEHLMANN, TIM	1314 CHANEY RD.	RALEIGH, NC	27606	851-7738
W2	IRC	McCUNE, WILLARD	5401 OLDTOWNE RD.	RALEIGH, NC	27612	781-3190
KB4	ISJ	LUND, WILLIAM D.	5127 CHESAPEAKE RD.	FAYETTEVILL	28301	488-1494
WA4	IVF	ANDERSON, GARY N.	4810-B BLUEBIRD CT.	RALEIGH, NC	27606	851-3898
K4	IWX	RICE, CARL H.	1807 RANKIN ST.	RALEIGH, NC	27604	834-5321
N4	IZE	SWANSON, THOMAS	5729 WINTERGREEN DR	RALEIGH, NC	27609	782-0791
KK4	JB	THOMAS, JOHN	5228 CEDARWOOD DR.	RALEIGH, NC	27609	782-1609
W4	JG	HODGES, JESSE	310 POGUE ST.	RALEIGH, NC	27607	833-0229
KA4	JKA	PEARSON, CECIL	RT. 1 BOX 236-1	APEX, NC	27502	772-8330
N1	JW	MELEG, ALEXANDER J	224 OAK STREET	EAST HARTFO	06118	-
WA4	JWE	KELLUM, SONNY	208 CHATTERSON DR.	RALEIGH, NC	27615	846-7455
AI0	K	STUCKLE, JERRY D.	4531 REVERE DR.	RALEIGH, NC	27609	787-0857
N4	KDD	BROWER, ROGER	411 W. MORGAN ST.	RALEIGH, NC	27603	821-3991
N4	KXT	SMITHSON, THOMAS C	3804 CAMERO CT.	RALEIGH, NC	27604	876-3111
N4	KXV	CRAIG, RAY	6117 VALLEY ESTATES DR	RALEIGH, NC	27615	848-9190
KC4	KYC	MAYFIELD, MS.	CARO P.O. BOX 1273	WENDELL, NC	27591	365-6291
KB4	LAF	RATASKI, CHET	9600 BARTON CREEK	RALEIGH, NC	27614	847-1122
WD4	LCL	GOLDBERG, ERIC	7901 AUDUBON DR.	RALEIGH, NC	27609	847-1350
KB4	LEN	McLEAN, LYMAN	806 HARGROVE ST.	HENDERSON,	27536	438-7002
W6	LPQ	PAUL, JIM	2212 COUNTRYWOOD RD.	RALEIGH, NC	27615	847-5842
N4	LQW	FORGENG, JOE	3720 MARLIN CT.	RALEIGH, NC	27604	872-8853
WA4	LUH	JOHNSON, F. MILAM	4011 GLEN LAUREL DR.	RALEIGH, NC	27612	781-7121
K4	LXV	YOUNG, LARRY	8804 WEATHERSFIELD CT.	RALEIGH, NC	27612	847-8558
WA4	LYN	PRESCOTT III, JOHN	2008 AURORA DRIVE	RALIGH, NC	27615	872-3191
WB5	M	THORNE, RICHARD	2829-B SECLUSION CT.	RALEIGH, NC	27606	
K4	MC	CORNS, BOB	1619 OBERLIN RD	RALEIGH, NC	27608	828-6005
KB4	MDY	GLEASON, CARLA	31 BELLAMY WOODS CIR.	DOVER, NH	03820	
KB4	MDZ	GLEASON, CHUK	31 BELLAMY WOODS CIR.	DOVER, NH	03820	

KB4	MEE	GUNTER, HAROLD E.	RT 1 BOX 290	NEW HILL, N	27562	362-6819
WA4	MJF	REAMS, RONNIE	3509 ROLESVILLE RD.	WENDELL, NC	27591	266-4434
W4	MJN	SHAW, MORTON R.	5509 LAMBSHIRE	RALEIGH, NC	27612	787-0916
WD4	MRD	HENDERSON, JOE	2221 COLEY FOREST PL.	RALEIGH, NC	27607	787-6624
AA4	MY	YAKAMAVICH, VINCE	220 CARRIAGE TR.	RALEIGH, NC	27614	847-8512
WD4	MYM	COCKRELL, JIM	203 HESTER	KNIGHTDAL,	27545	266-2649
WD4	MZZ	ELLIS, JOSEPH D.	6829 LAURDANE RD	RALEIGH, NC	27613	848-1141
DL9	NBX	VOELLMER, ROLAND	SEIDMANNSDORFER STR. 68	8630 COBURG	-	-
WA9	NEW	EGGERS, BRUCE	1141 N. SPR. GARDEN	RALEIGH, NC	27603	779-0266
KB4	NIC	WIGGS, GREGORY	11000 FALLS NEUSE RD	RALEIGH, NC	27614	847-0201
KA4	NSA	PLAKS, ALAN	1205 COUNTRY RIDGE RD.	RALEIGH, NC	27609	876-4192
K4	NYV	PENDLETON, LYNN	3617 COUNTRY COVE LN.	RALEIGH, NC	27606	829-8449
N4	ODA	MULLIGAN, JIM	1403 BUCKHORN RD.	GARNER, NC	27529	779-1997
WD4	ODT	SWAIN, JOHN, JR.	3420 CHURCHILL RD.	RALEIGH, NC	27607	787-5417
W8	OFC	WUNTNER, SANDY	PO BOX 19424	RALEIGH, NC	27612	848-0985
N4	OIC	WATKINS, ARDIE C.	8516 BELLS LAKE RD.	APEX, NC	27502	772-7071
W8	OJW	MELEG, ALEXANDER S	3817 BELLWOOD DR NW	CANTON, OH	44708	-
KB4	OKB	TUTTLE, DAVE	S. BEND MOBILE HOME PK.	CLAYTON, NC	27520	553-5224
KB4	OQO	THOMSON, DOUGLAS	1109 QUEENSFERRY RD.	CARY, NC	27511	469-3380
WD4	OVQ	NEWMAN, HY	704 BERMOUTH SQ.	RALEIGH, NC	27615	848-2210
KA7	OXQ	PORTER, ANDREW	805 W. JOHNSON ST.	RALEIGH, NC	27605	828-5012
N4	OZL	CALLERY, JOHN	3621 BOND STREET	RALEIGH, NC	27604	833-3447
NF4	P	RANSOM, ROLLIN	Rt. 5 Box 267	ZEBULON, NC	27597	269-4406
N4	PBB	COOK, EDWARD D.	5101 LITTLE BEAVER DAM R	HOLLY SPRIN	27540	552-7837
WA4	PEN	ALDERMAN, ED	3101 JULIAN DR.	RALEIGH, NC	27604	876-0340
N4	PII	WEAVER, JAMES B.	4301 WATERBURY RD.	RALEIGH, NC	27604	876-4148
K9	PM	MUELLER, PAUL	1810-101 AVENT RIDGE RD.	RALEIGH, NC	27606	851-4577
N4	PNO	HUX, CHRIS	816 MERWIN RD.	RALEIGH, NC	27606	859-3256
N4	PPN	PARKER, DOUGLAS C.	1228 SOMERSET RD.	RALEIGH, NC	27610	833-9682
N4	PSJ	JOYNER, DEXTER	9801 HONEYCUTT RD.	RALEIGH, NC	27614	847-1359
WD4	PSO	SAVOY, KEITH	RT. 2 BOX 334-A	ROUGEMONT,	27572	479-5235
N4	PTO	HARRIS, DONN R.	RT. 3 BOX 326	RALEIGH, NC	27603	772-5130
WB4	QHA	O'NEAL, ROBERT L.	601 TYLER RUN	WAKE FOREST	27587	556-0273
KB4	QVK	LEWIS, CARL M.	903 LEXINGTON CT.	CARY, NC	27511	469-3060
KB4	QVL	GALLER, BILL	2101 NANCY ANN DR.	RALEIGH, NC	27607	787-7756
N4	QWD	BRADY, RICHARD W.	2931 FAVERSHAM PL.	RALEIGH, NC	27604	872-1956
N4	QWE	MULLIGAN, KATHIE	1403 BUCKHORN RD.	GARNER, NC	27529	779-1997
N4	RED	HALES, CRAIGE	P.O. BOX 130	APEX, NC	27502	362-7419
N4	RGG	GRAINGER, HEYWARD	604 MARGIE HELEN RD.	RALEIGH, NC	27603	779-6847
N4	RHP	SNYDER, TIMOTHY W.	400 FAYETTEVILLE ST. #902	RALEIGH, NC	27601	834-5005
KB4	RV	BOGGS, J. KENNETH	4333 PICKWICK DR.	RALEIGH, NC	27612	787-1127
KB4	RW	WILLIAMS, JACK	1000 WINONA RD.	RALEIGH, NC	27609	872-7329
N4	RWZ	PATEL, RAHUL	111 COORSDALE DR.	CARY, NC	27511	469-3212
KB4	RZ	JACKSON, RICHARD	3347 ALAMANCE DR.	RALEIGH, NC	27609	787-1160
N4	RZO	BELL, WARREN B.	1121 SHETLAND CT.	RALEIGH, NC	27609	782-6511
NF4	S	BARNER, GEORGE	7205 STEPHEN BOYD CT.	RALEIGH, NC	27604	872-4495
K4	SAN	THOMAS, DAVID E.	17 MERRIMAC DR	APEX, NC	27502	772-6338
N4	SDQ	BECKETT, FRAN E.	4100 DURALEIGH RD.	RALEIGH, NC	27612	781-6592

N4	SHD	GRIFFIN, PATRICK A	5016 HIGH GROVE DR.	RALEIGH, NC	27610	839-5925
N4	SHX	FISH, JOHN H.	1107 WYLDEWOOD RD.	DURHAM, NC	27704	471-6894
WA4	SKH	ROBINSON, BEN	5717 LAKEHAVEN DR.	RALEIGH, NC	27612	848-7814
K84	SL	ANDERSON, ROLF	2836 MATTLYN CT.	RALEIGH, NC	27612	848-4033
N4	SMI	SIMS, AARON	1804 VANDORA SPRINGS RD.	GARNER, NC	27529	772-8097
N4	SNA	JOLLS, LLOYD	4429 JAMES RD.	RALEIGH, NC	27604	876-5596
WA4	SNC	SHELVIN, WAYNE	217-C MILLBROOK RD.	RALEIGH, NC	27609	847-3470
N4	SND	COATES, Ms. SANDY	5016 HIGH GROVE DRIVE	RALEIGH, NC	27610	839-5925
K3	SPC	SNYDER, JOSEPH J.	PO BOX 17265	RALEIGH, NC	27619	781-8225
W6	SRF	TISSOT, RAYMOND	4508 EMBLETON DR.	RALEIGH, NC	27612	782-9681
WA2	SRZ	MANGOGIAN, VINCENT	901 CHALK LEVEL RD. C10	DURHAM, NC	27704	471-8792
N4	SSK	VARNER, TIMOTHY C.	RT. 1 BOX 1395	GARNER, NC	27529	779-5578
N4	SSL	PAUL, PATRICK J.	116 MAPLE.	LAKE JACKSON, TX	77566	-
N4	SSN	MASON, RANDALL	1010 ROCK DR.	RALEIGH, NC	27610	833-0988
N4	SSO	ROBINSON, JEAN	5717 LAKEHAVEN DR.	RALEIGH, NC	27612	848-7814
N4	SSQ	SAVOY, MARIE	RT 2 BOX 334-A	ROUGEMONT	27572	479-5235
N4	SSS	PRICE, PEGGY	420 OAK RIDGE	CARY, NC	27511	481-3856
N4	SST	BLALOCK, MILTON C.	903 HOLLAND RD.	FUQUAY-VARINA	27526	552-9490
N4	SSU	BREEDEN, EDWARD	1309 WESTMORELAND DR.	RALEIGH, NC	27612	787-8874
N4	SSX	BLACLOCK, ANDY	3503 DUKE HOMESTEAD RD	DURHAM, NC	27704	477-0664
N4	SSY	TAILOR, NAVIN	735 OAK ROAD	RALEIGH, NC	27603	839-0198
N4	STA	WALL, SHELBY E.	2540 BENSON RD.	GARNER, NC	27529	779-6458
N4	SVZ	WAGNER, JIM	5824 SHAMROCK RD.	DURHAM, NC	27713	544-3339
N4	SW	SHORT, WALT	5515 CASTLEBROOK DR.	RALEIGH, NC	27604	876-1166
N4	SWB	CHENERY, GILBERT	R 1213 CARRINGTON DR.	RALEIGH, NC	27615	847-7918
N4	SWC	GRIEST, EDWARD	6901 BUCKHEAD DR.	RALEIGH, NC	27615	847-0186
N4	SWF	KELKAR, JAY	100 BRAMPTON LN.	CARY, NC	27513	460-1315
WA9	SZL	MAYFIELD, JOHNNIE	302 POPLAR BOX 1273	WENDELL, NC	27591	365-6291
NO0	T	SOBON, PAUL	4700 FALLSWOOD PL.	RALEIGH, NC	27612	847-8830
WA2	TBQ	DEMCKO, RON	2404 TRUSTY TR.	RALEIGH, NC	27615	848-4717
N4	TDY	FIELDS, JR., CHAR	6524 KEYSTONE DRIVE	RALEIGH, NC	27612	848-8130
AA4	TE	WALKER, JOEL A.	510 MADISON AVE.	CARY, NC	27511	467-6749
WA3	TMR	LYMPANY, STEVE	7821 BRECKON WAY	RALEIGH, NC	27615	847-9456
N4	TMX	HALES, LAURA	P.O. BOX 130	APEX, NC	27502	362-7419
WB4	TNC	MAYS, CHARLES O.	5400 BELSAY DR.	RALEIGH, NC	27612	781-0553
N4	TQO	MERCHANT, STEPHEN	3329 DONNER TRAIL	WAKE FOREST	27587	556-8889
WB7	TXO	YAKAMAVICH, JOYCE	220 CARRIAGE TR.	RALEIGH, NC	27614	847-8512
W4	TZU	STARNES, SHERMAN	RT. 1 BOX 99	FRANKLINTON	27525	494-5169
KB7	UAO	HUGHES, ALAN K.	12177 TEAKWOOD PLACE	RALEIGH, NC	27606	851-9662
N4	UAQ	AAL-ANUBIA, DOCTOR	2617 RAMSEY ROAD	RALEIGH, NC	27604	828-9922
W2	ULO	VARGAS, JOHN F.	6009 RIVER LANDINGS DR	RALEIGH, NC	27604	850-9200
KA4	ULW	CALLERY, JOHN	3621 BOND STREET	RALEIGH, NC	27604	833-3447
KI4	UP	HAY, GERALD M.	11924 APPALOOSA RUN	RALEIGH, NC	27612	876-8073
KB2	URZ	NAMM, DONALD H.	1313 RAVENHURST DR	RALEIGH, NC	27615	847-1716
WB4	USX	PARKS, SUE MEYER	3 CUSTER CIRCLE	DURHAM, NC	27713	544-7952
W4	UTA	BEAMER, LANE	824 W. DURHAM RD	CARY, NC	27513	469-9692
KB4	UTJ	WALL, BRIAN	BOX 21534, 402H, SO. HALL, NCSU	RALEIGH, NC	27607	831-1435
KC9	VJ	SHELBY, JAMES E.	123 CRESTVIEW RD.	RALEIGH, NC	27609	787-7146

AA4	VK	OATES, RON	9908 WATERVIEW RD.	RALEIGH, NC	27609	847-3279
K4	VLR	BROWN, CHARLES E.	321 TROTTERS RIDGE	RALEIGH, NC	27614	847-7531
WA4	VSL	LAMPLEY, GLENN C.	614 CHUBB LAKE ST.	ROXBORO, NC	27573	597-5971
K4	VWN	BARR, BARRY D.	3620 ROCK CREEK DR.	RALEIGH, NC	27609	781-0563
KB4	VYP	REAMS, PATRICK	3509 ROLESVILLE RD.	WENDELL, NC	27591	266-4434
KY4	W	WEISS, FRANK	17401 SPRING TREE	BOCA RATON,	33431	994-8017
KA2	WFM	WILL, EMILY	BOX 58552	RALEIGH, NC	27658	556-7414
WB4	WIN	BURNETTE, MARK	2828 STERLING PARK DR.	RALEIGH	27603	-
WA1	WXL	PARKER, JEFF	7901 TWIN OAKS CT.	RALEIGH, NC	27609	848-1208
W4	WYV	PEACOCK, GEORGE S.	6604 JOHNSDALE RD.	RALEIGH, NC	27615	876-0071
WB4	YBF	SIMS, PAUL R.	1804 VANDORA SPR. RD.	GARNER, NC	27529	772-8097
W4	YC	ENGEBRETSON, ED	1308 HUNTING RIDGE RD.	RALEIGH, NC	27615	847-1030
WA4	YOM	PEELER, JIM	3513 LEONARD ST.	RALEIGH, NC	27607	787-6036
KK4	YP	ELLIS, E. KIRK	RT 1 - BOX 18 FOXFIRE	SELMA, NC	27576	965-9567
KA4	YYZ	WEAVER, JIM	4301 WATERBURY RD.	RALEIGH, NC	27609	876-6055
WB9	YZI	KRAEHENBUEHL, PETE	6800 WOODMERE DR.	RALEIGH, NC	27612	846-4082
KA4	ZHG	STONE, WADE	1315 CHANEY RD.	RALEIGH, NC	27606	851-5257
KB4	ZMB	DAVIS, WESLEY G.	P.O. BOX 443	WENDELL, NC	27591	269-4172
WB5	ZPQ	SAAH, JOE	114 VILLAGE CT.	GARNER, NC	27529	779-5659
WB4	ZSM	BROWNE, AUDREY	4419 GATES ST.	RALEIGH, NC	27609	787-4299
K4	ZVK	CHAMBERS, WALT	4301 JAMES ROAD	RALEIGH, NC	27604	876-6306
KA4	ZZO	BLACKMAN, CORBETT	5705 DEAN AVE.	RALEIGH, NC	27604	876-1798

Alphabetical Listing

Name	Call	Lic.Class
AAL-ANUBIA, DOCTOR	N4UAQ	T
ALDERMAN, ED	WA4PEN	T
ALLIKAS, PAUL	N2HJK	-
ANDERSON, GARY N.	WA4IVF	E
ANDERSON, ROLF	K8SL	E
BABCOCK, JAMES	K4ABJ	A
BARHAM, JOHN	KC4AHG	T
BARNER, GEORGE	NF4S	E
BARR, BARRY D.	K4VWN	G
BAUCOM, JAMES K.	K4CQG	A
BEAMER, LANE	W4UTA	G
BECKETT, FRAN E.	N4SDQ	T
BELL, WARREN B.	N4RZO	G
BLACKMAN, CORBETT	KA4ZZO	T
BLACLOCK, ANDY	N4SSX	A
BLALOCK, MILTON C.	N4SST	G
BLISS, PETER	W8DTD	A
BOGGS, J. KENNETH	KB4RV	A
BORDT, RAY	KA1CYF	T
BRACK, FRED	N4ECU	G
BRADLEY, ANN	WA4APK	E
BRADLEY, JIM	WA4AOO	E
BRADY, RICHARD W.	N4QWD	T
BRAME, WALLACE	KI4BP	E
BRANDBERG, WILLIAM	W2BBN	G
BREEDEN, EDWARD	N4SSU	T
BROWER, ROGER	N4KDD	G
BROWN, CHARLES E.	K4VLR	A
BROWN, CLAY	AB4FR	E
BROWNE, ALAN	WA4AFB	G
BROWNE, AUDREY	WB4ZSM	G
BROWNING, ROBERT	K4FMW	G
BRUNN, ROBERT	SM0BRU	Y
BUEHLMANN, TIM	N4IQA	A
BURCHETTE, TONY	KC4GBR	T
BURNETTE, MARK	WB4WIN	-
CALLERY, JOHN	KA4ULW	T
CAMPBELL, THOMAS H.	KC4GRT	G
CAUDELL, BENNY	N4AFO	A
CHAMBERS, WALT	K4ZVK	G
CHENERY, GILBERT R.	N4SWB	T
CHURCH, H.E.	W3EPA	A
CHURCH, MRS. DORTHEA	KA3CVE	T
COATES, GARY D.	KC4COY	T
COATES, Ms. SANDY	N4SND	T
COCKRELL, JIM	WD4MYM	T
COHEN, GERRY	N4GC	E

CONROY, LOU	WD4EIQ	G
COOK, EDWARD D.	N4PBB	G
CORNS, BOB	K4MC	E
COURTNEY, DIANNE	WB4INM	A
CRAIG, RAY	N4KXV	T
DAVIS, WESLEY G.	KB4ZMB	T
DELLA FAVE, RENARD	KC4AQC	T
DEMCKO, MARY BETH	KC4CPK	T
DEMCKO, RON	WA2TBQ	E
DIEPENBROCK, JAY	KM4EP	A
DIETER, DONN	K4GHJ	G
DuBRECK, JIM	N4BYO	G
EGGERS, BRUCE	WA9NEW	A
ELLIS, E. KIRK	KK4YP	A
ELLIS, JOSEPH D.	WD4MZZ	T
ENGEBRETSON, ED	W4YC	E
EPPERSON, DARRELL	WB4CJQ	E
FEEHAN, WILLIAM	WB4EOV	G
FIELDS, JR., CHARLIE	N4TDY	T
FISH, JOHN H.	N4SHX	T
FOLTZ, JOHN J.		
FORGENG, JOE	N4LQW	G
GALLER, BILL	KB4QVL	N
GLEASON, CARLA	KB4MDY	T
GLEASON, CHUK	KB4MDZ	T
GOLDBERG, ERIC	WD4LCL	T
GRAINGER, HEYWARD B.	N4RGG	A
GREENBERG, HARRY	W2AC	E
GRIEST, EDWARD	N4SWC	
GRIFFIN, PATRICK A.	N4SHD	T
GUNTER, HAROLD E.	KB4MEE	G
GWYER, CHESTER V.	WN4IMZ	T
HALES, CRAIGE	N4RED	T
HALES, LAURA	N4TMX	T
HALES, WILLIAM	W4FNB	A
HARRIS, DONN R.	N4PTO	T
HAY, GERALD M.	KI4UP	A
HAYES III, JOSEPH T.	KC4CPH	T
HENDERSON, JOE	WD4MRD	G
HODGES, JESSE	W4JG	A
HOMOVEC, JOSEPH	WA4ENZ	A
HUGHES, ALAN K.	KB7UAO	T
HUX, CHRIS	N4PNO	T
INGRAHAM, ROBERT	AB4FY	E
JACKSON, RICHARD	KB4RZ	A
JEFFRIES, THOMAS	KC4FCC	N
JOHNSON, F. MILAM	WA4LUH	T
JOHNSON, MEL		

JOHNSON, SAM		
JOLLS, LLOYD	N4SNA	
JOYNER, DEXTER	N4PSJ	T
JUDGE, SAMUEL R.		
JURGENS, CHUCK	WA0CMO	A
JURNEY, BILL		
KELKAR, JAY	N4SWF	T
KELLUM, ANITA	KC4AQB	T
KELLUM, SONNY	WA4JWE	G
KEYS, ROBERT D.	NA4G	E
KLINO, HOWARD L.	K2IMO	G
KRAEHENBUEHL, PETER	WB9YZI	A
LAMPLEY, GLENN C.	WA4VSL	A
LASSITER, CHRIS	KC4EOG	G
LASSITER, GLENN B.	KC4DHS	A
LAUR, STEVEN A.	N4HKR	G
LEWIS, CARL M.	KB4QVK	T
LISENBE, MICHAEL	AB4EO	E
LITTLEWOOD, CHUCK	K4HF	E
LUND, WILLIAM D.	KB4ISJ	T
LYMPANY, STEVE	WA3TMR	E
MANGOGIAN, VINCENT	WA2SRZ	E
MARTIN, JACK R.	K4DWQ	G
MARTIN, JAMES T.	KA5IEC	A
MASON, RANDALL	N4SSN	T
MAYFIELD, JOHNNIE	WA9SZL	G
MAYFIELD, MS. CAROLYN	KC4KYC	T
MAYS, CHARLES O.	WB4TNC	A
McALISTER, SIDNEY		
McCUNE, WILLARD	W2IRC	G
McDANIEL, CHARLES A.	KC4CRT	T
McDERMOTT, Father	K4HJK	G
McLEAN, LYMAN	KB4LEN	T
MELEG, ALEXANDER JR.	N1JW	E
MELEG, ALEXANDER SR.	W8OJW	G
MELEG, DAVID E.	KC4BKR	G
MEMOLO, PETE		
MENTHA, JOHN	K4FAD	E
MERCHANT, STEPHEN F.	N4TQO	G
MEYER, STUART	W2GHK	E
MOAK, NORMAN	WA2BDW	A
MOATES, ROGER	W3EZR	E
MODENA, STEPHEN A.	AB4EL	E
MUELLER, PAUL	K9PM	E
MULLIGAN, JIM	N4ODA	A
MULLIGAN, KATHIE	N4QWE	T
MULLIS, AL	K4GOE	A
NAMM, DONALD H.	KB2URZ	T

NEWMAN, HY	WD4OVQ	G
O'NEAL, ROBERT L.	WB4QHA	G
OATES, RON	AA4VK	E
PALESTINO, ANTHONY	WD2AJJ	A
PARKER, DOUGLAS C.	N4PPN	T
PARKER, JEFF	WA1WXL	T
PARKS, SUE MEYER	WB4USX	G
PATEL, RAHUL	N4RWZ	G
PAUL, JIM	W6LPQ	A
PAUL, PATRICK J.	N4SSL	A
PEACOCK, GEORGE S.	W4WYV	E
PEAKS, JR., JAMES	KC4FBW	N
PEARSON, CECIL	KA4JKA	G
PEELER, JIM	WA4YOM	A
PENDLETON, LYNN	K4NYV	E
PLAKS, ALAN	KA4NSA	N
PLAKS, DORIS		
PLAKS, NORMAN	KN4G	E
PORTER, ANDREW	KA70XQ	N
POWELL, THERMAN		
PRESCOTT III, JOHN F.	WA4LYN	A
PRICE, PEGGY	N4SSS	T
PRICE, WALTER	KM4BU	A
RADFORD, BILL	WB4CLA	A
RAITER, TERRY	KB4HYF	T
RANSIER, BILL	N1BA	E
RANSOM, ROLLIN	NF4P	E
RATASKI, CHET	KB4LAF	E
REAMS, PATRICK	KB4VYP	T
REAMS, RONNIE	WA4MJF	A
REAMS, SHERRY L.	KB4EXL	T
RECK, FRANCIS J.	KA8DNP	A
REYNOLDS, MATT	KB2ACE	T
REYNOLDS, PAUL	W2EZS	G
RICE, CARL H.	K4IWX	G
ROBERTSON, C. STEVEN	KC4CU	A
ROBINSON, BEN	WA4SKH	A
ROBINSON, JEAN	N4SSO	T
ROEBUCK, MICHAEL	AB4CH	E
ROGERS, ANNETTE	KB4AQH	N
ROGERS, LEE	WB4DRJ	A
ROSENBERG, MIKE	KC4GNM	N
SAAH, JOE	WB5ZPQ	A
SAVOY, KEITH	WD4PSO	A
SAVOY, MARIE	N4SSQ	T
SCARROW, STEPHEN F.	KC4DWR	T
SHACKLEFORD, WILLIS C	KC4GRV	T
SHAW, MORTON R.	W4MJN	A
SHELBY, JAMES E.	KC9VJ	A
SHELVIN, WAYNE	WA4SNC	G
SHORT, WALT	N4SW	E
SILVER, MARTY	NY4H	E
SIMS, AARON	N4SMI	T
SIMS, PAUL R.	WB4YBF	E
SINGER, ANDREW	WK2F	E
SMITHSON, THOMAS C.	N4KXT	G
SNYDER, JOSEPH J.	K3SPC	A
SNYDER, KERRY	KK4EF	A
SNYDER, TIMOTHY W.	N4RHP	T
SOBON, PAUL	NO0T	E
STAFFORD, MS. MELISSA	KC4HAF	N
STARNES, SHERMAN	W4TZU	A
STEGALL, RANDY	KC4GFR	T
STOKLEY, RICHARD	N4OGZ	T
STONE, CHARLIE	WD8ENW	T
STONE, WADE	KA4ZHG	N
STROUPE, MIKE	K4DRT	G
STUCKLE, JERRY D.	AI0K	E
SWAIN, JOHN, JR.	WD4ODT	A
SWANSON, THOMAS	N4IZE	G
SWINDELL, CHARLES	WB4DCM	A
TAILOR, NAVIN	N4SSY	T
TANKERSLEY, LARRY		
TEAGUE, ROBERT M.	K4HKQ	G
THACHER, COLEMAN	W1HZQ	A
THACHER, PETE	N4HQZ	A
THOMAS, DAVID E.	K4SAN	A
THOMAS, JOHN	KK4JB	E
THOMAS, MARLENE	KC4CPC	N
THOMSON, DOUGLAS	KB4OQO	N
THORNE, RICHARD	WB5M	E
TISSOT, RAYMOND	W6SRF	G
TUTTLE, DAVE	KB4OKB	A
VAN GIESON, WALTER	AB4DQ	E
VARGAS, JOHN F.	W2ULO	E
VARNER, TIMOTHY C.	N4SSK	T
VOELLMER, ROLAND	DL9NBX	1
WAGNER, JIM	N4SVZ	T
WALKER, JOEL A.	AA4TE	E
WALL, BRIAN	KB4UTJ	T
WALL, SHELBY E.	N4STA	T
WARD, RICK	KC4CFG	T
WATKINS, ARDIE C.	N4OIC	G
WATKINS, JOSEPH C.		
WEATHERFORD, BOB	KI4DV	A
WEAVER, JAMES B.	N4PII	G

WEAVER, JIM	KA4YYZ	T
WEISS, FRANK	KY4W	E
WEST, C.T..	WD4HSI	G
WHETZEL, V.L. PAT	WA4CLT	A
WHITE, JOE	WA4GIR	E
WHITEHURST, LAWERENCE	W4DHW	A
WICKER, PHIL	W4ACY A	
WIGGS, GREGORY	KB4NIC	T
WILL, EMILY	KA2WFM	G
WILLIAMS, DAVE	KM4AK	E
WILLIAMS, DAVID M.	KK4HI	A
WILLIAMS, ELIZABETH		
WILLIAMS, JACK	KB4RW A	
WISDOM, JIM	K4HCG G	
WOLK, ROBERT D.	KC4CPD	T
WUNTNER, SANDY	W8OFC	A
YAKAMAVICH, JOYCE E.	WB7TXO	G
YAKAMAVICH, VINCE	AA4MY	E
YOUNG, LARRY	K4LXV	A
YOUNG, ROBERT	KC4FGG	T

VE REPORT

November 17th at the McKimmon Center of NCSU. Nine RARS VE's were on hand to administer the "final exam" for the students of N4BYO's Fall Novice / Technician class. Also attending were 2 students of WK2F's "class" in Smithfield. The results: of 19 applicants, 16 earned licenses (3 Novice & 13 Tech), and the remaining 3 all earned partial credit (CSCEs). We congratulate the following students:

Robert Britt, KB4ZAC, Selma, Novice —> Tech
Cloyd Brown, Raleigh, No license —> Tech
Bruce Chase, Raleigh, No license —> Tech
Patricia Coates, Durham, No license —> Novice
Carol Ellis, Wendell, No license —> Tech
Joshua Ellis, Wendell, CSCE 5-WPM code
Paula Hayes, Durham, No license —> Novice
Alfred Johnson, Cary, No license —> Tech
Sam Johnson, Raleigh, CSCE Element #2
Sam Judge, Raleigh, No license —> Novice
Felix Killette, Selma, No license —> Tech
Charles Logan, Raleigh, No license —> Tech
Ann McKenzie, Raleigh, No license —> Tech
Peter Memolo, Wendell, No license —> Tech
Patrick Moran, Raleigh, No license —> Tech
Eleanor Phelps, KB4FLZ, Durham, Nov. —> Tech
Uzma Siddiqi, Raleigh, No license —> Tech
Katrina Varner, Garner, CSCE 5-WPM code

Over-all success rate was at 84%, which is substantially over the national norm for amateur exams. The efforts that Jim, N4BYO; Chet, KB4LAF; Ed, WA4PEN; and ALL the other instructors who pitched in and helped conduct the classes certainly were visible on "exam night." This calendar year, the RARS Novice / Tech classes (under the leadership of N4BYO) have "graduated" forty one (41!!!) new hams in the Raleigh area. An outstanding accomplishment. RARS VE's helping out with the examination process were: KB4LAF, AB4CH, AB4FY, AB4EL, N1BA, KK4JB, WB4YBF, KM4AK (Dave's first time GIVING the tests), and AA4MY.

Next RARS Exams: December 7th. RARS VE Team #1 (headed by K4FAD & WA4GIR) will do the honors. Pre-register w/ AA4MY. These will be the LAST RARS exams until the HAMFEST in April! Up-grade NOW!!

Remember the RARS Outgoing QSL Bureau Service

In November, six members submitted 217 QSL cards to the outgoing DX bureau. Bring your outgoing DX QSL cards to the next Meeting along with your mailing label from QST.

73, John, KK4JB

Gilbert and Me

— or —

How I Spent My Summer Vacation

As I write this it's 12 days since hurricane Gilbert slammed into Jamaica. The fear is dissipating to the point where some of the humor can be appreciated. Like the woman who, when the worst of the storm had passed, asked for a candle to find her way back to her room. I still wonder how she managed during the storm! We didn't plan an adventure. We planned a celebration of our 25th wedding anniversary. We wanted to do something different—what an understatement that turned out to be.

We arrived in Jamaica late Saturday, September 10. The possibility of a hurricane was mentioned at lunch Sunday, and the certainty of it on Monday morning (the same time we found out the airport was closed, thus sealing our fate). We found life in a third world country even more different than we expected. For one thing communications are minimal, virtually nonexistent. When or where would the hurricane hit, how strong would it be? We had none of this minute-to-minute information. We awaited the storm in the pub, a building largely surrounded by other buildings, which had the windows boarded over. There were a large number of people in this relatively small room.

The power and water had been turned off as precautions. (Little did we know they would not be able to turn them on again.) It was hot, humid, and unbelievably stuffy, with the inevitable party animals making quite a ruckus at the bar. We spent about twelve hours there, beginning about 11 in the morning. We were staying in Negril at the western end of the island. The hurricane arrived late afternoon. At first it wasn't much worse than a summer storm, windy and raining, but with no lightning. As the storm picked up intensity we could hear snapping and crashing and feel the building shake. When the eye took almost an hour to pass over, we knew the storm was either very large or very slow-moving. Neither bode well.

The second half was worse than the first since in came from the sea and pushed water in front of it. It had calmed enough to return to our rooms about 11 that evening. One of the most frightening things was that the storm occurred during total darkness and you couldn't really tell what was happening. We had small flashlights with us and made our way back to the room stumbling over branches and debris. Our room had fared well, only a wet carpet marked the passing of the storm. But our tub stopper had leaked and there was little left of the water we had filled it with before the storm. The room was hot and sticky and everything in it was damp. Mostly, the room was dark. A candle sure doesn't shed much light.

Sunrise showed us just how lucky we had been. The hotel itself sustained little structural damage: a few roofs damaged, some windows broken out, and most of the glass in the dining area broken. For everything else, however, the damage was unbelievable. Trees were snapped in half or pushed over from the roots, massive branches broke off trees that remained standing. Bushes were torn out or snapped over. There was virtually no portion of the ground not strewn with debris. A walk out to the road showed utility poles and cables either snapped

or lying on the ground. The destruction was such that it numbed your mind and overwhelmed your senses. We were raised in New Jersey and have been through hurricanes before, but they were nothing compared to this. There had been very few injuries among those at the resort. Everyone was alive and grateful.

Jamaican radio stations were off the air. The only stations we could pick up were from Cuba. Since none of us understood Spanish that was no help. We had no idea how the rest of the island had fared. We only knew that we had no power, no water, a limited amount of food, and no idea what would happen next. Actually, nothing happened next. Not for almost two days. We were spoiled Americans without a means of communication to let the folks at home know we were alive, with no air conditioning suffering through very hot, very humid days and nights, cut off from everything we knew and the creature comforts we were accustomed to.

We were assaulted by mosquitoes and the rank smell of rotting vegetation. Spoiled as Americans are, we must also possess some good old Yankee ingenuity. We learned to run outside during the rainstorms to shower and collect rainwater. We used wastepaper baskets to haul water from the ocean to flush the toilets. We learned to read by candlelight and revived the lost art of conversation. I spent quite a while one afternoon watching a hummingbird walk, yes walk, across the ground strewn so closely with flowers that it appeared to be some sort of bizarre buffet. I also watched men cut up fairly good sized trees with machetes. (Chain saws arrived later.) We learned to sleep on damp, mildew-smelling beds, to use towels already damp and musty (no power, no water, so no laundry gets done and salt water dries fabric to the texture of sandpaper). We strained to catch a distant radio station late at night to find out what was going on and what to expect.

We also learned to hate pineapple, the one food seemingly in abundance. We ate from paper plates with plastic forks (no water, no clean dishes and silverware) so thin that they bent on scrambled eggs. Preservation of the species, we ate with our fingers, glad there were no Emily Post types around. By Wednesday we were getting boiled water to drink with our meals—what a luxury! Late Wednesday we sat on a rock jetty and stared out to sea. Suddenly came the unmistakable sound of a plane. It felt like Gilligan's Island come to life.

It turned out to be a cargo plane from the American base on Cuba. It passed over, wagged its wings, and was gone. The lift to our spirits, however, lasted long after the sound of the engines died away. Later a small plane landed at the tiny Negril airport nearby. It had brought the Deputy Minister of Tourism who advised us that the island was now receiving emergency medical and food supplies from foreign countries and that the U.S. Marines had landed at Montego Bay. It was at this point we learned that the control tower at the Montego Bay airport had been destroyed by the storm and the Marines were going to rebuild it. The cheering and applause were deafening. I never dreamed I would be on the receiving end of the phrase, "the Marines have landed", but it sure felt great.

A major concern was for our families at home, who had no news of us and from whom we were so totally cut off. I knew that Paul

Sims, with whom I work, was an amateur radio operator (actually ham is more appropriate, but the experience has mellowed me somewhat). I often wondered if it was possible for him to contact anyone in Jamaica. People were allowed to leave in the order in which they had been originally scheduled to leave. That is, those who should have left on Monday through Wednesday, got to leave on Thursday. Ironically, that meant we were eligible to leave on Saturday as originally planned.

We got up at 4:50 AM to begin our trek homeward on what we were told was a normally operating 10 AM flight. It's almost a two hour ride to the airport under normal conditions and these conditions were anything but normal. Ten o'clock found us at the airport in line trying to get our tickets sorted out. But that was OK because the first flight was now scheduled for 3 PM. We spent somewhere between four and five hours in line before we had the much desired boarding passes in hand.

The ride to the airport gave us our first daylight view of what had happened to the Island of Jamaica. Destruction was everywhere. Very few houses had roofs, glass was blown out everywhere. The homes of the poorer people, who had so little to begin with, were much harder hit; in many cases totally destroyed. Also destroyed were crops these people used for food. We saw women, their faces masks of disbelief and dismay, carrying water from murky streams and from the sea. Unless they get some clean water soon, there will probably be outbreaks of disease to compound their problems.

The airport was crowded beyond belief, hot, sticky, etc. More of the same. The scheduled departure time of 3 PM turned to four, four to five, etc. The flight was finally scheduled for 6 PM. We took off about 6:30 PM to a roar of the engines and a shout of jubilation from the passengers that was deafening. Unfortunately, we took off for Miami — not part of our original flight plan. No one complained, however, we all said, "Just set us down on US soil! We can make it from there."

After a crippling total of 30 hours in transit we arrived at Raleigh-Durham airport about noon on Sunday. We were met by our children and taken home — glorious, wonderful, home! One of the first things we were told was that Paul had indeed spoken to someone in Jamaica and let our family know we were probably alright. Greatly appreciative of air conditioning, running water, sanitary facilities, and with a new respect for all forms of communication, we decided from now on we would celebrate our anniversary in February.

• •

I thought RARS members might be interested in the first-hand account of a 'survivor' of Gilbert — Linda Padfield. Many of us listened to the hurricane nets, and many of us took traffic to the states. I carried only two messages out, but the relief I heard on the other end of the 'phone justified all the $$$ I've spent over the years. This very human account of life in a disaster area should make us all glad to be where we are, and glad to be hams. We are indeed a service, and not just here at home.

Paul Sims, WB4YBF

• •

Wanted

IBM XT or Compatible Computer
Contact Randall, N4SSN
833-0988

RARS AUCTION
A SMASHING SUCCESS!!

The club's Annual Auction was a resounding success, with lots of folks packed in the room & anxious to spend their hard earned dollars! President Pete (N4HQZ) and able assistant Jim DuBreck (N4BYO) served as auctioneers, and kept everyone laughing throughout the evening. There were 10 tables (nine feet long), loaded with goodies to be had. "Treasures" were available from $0.25 to $350.00, and everywhere in between.

Truly, there was something for everyone. Some of the more notable goodies were a Kenwood TS-520 transceiver for $350, and a pair of 4-1000 tubes that went for around $40 each. Several radios, pieces of test equipment and many boxes of junque traded hands, including many tubes, crystals, boat-anchors, & door-stops!

In addition to Pete & Jim, John Thomas (KK4JB) was working hard trying to keep up with the action logging transactions on his lap-top computer, and fed results to the cashiers. Chuck Littlewood (K4HF) and Sue Parks (WB4USX) manned the cashier's table and kept track of the dollars changing hands, and extracting the club's modest percentage.

All in all — a MOST enjoyable evening. If you didn't make it to the meeting, shame on YOU. You missed a super evening. Better plan early to attend the ANNUAL RARS AUCTION in November, 1989!

• •

Wanted

2 Meter HT
Contact Randall, N4SSN
833-0988

Jack Ravenscroft, VE3SR
Silent Key

Jack Ravenscroft, of Kanata near Ottawa, Canada, died on October 19. What was thought to be a stroke was found to be a massive brain tumor. He had been ordered off the amateur air waves as a result of a lower court decision finding him guilty of being a "nuisance." A neighbor had brought suit against him; charging that his amateur radio station interfered with the operation of their household appliances ... even though the Canadian Department of Communications had given Jack's amateur station a clean bill of health. Amateurs around the world contributed to a defense fund to assist him with his legal expenses and appeal. So ends very tragically a saga of four years of harassment, worry and frustration for Jack Ravenscroft. (tnx W5YI)

• •

WANTED:

Desk mic for FT-757, such as D-104, or SURE 444. John, WB4JHS, @ 477-6161

• •

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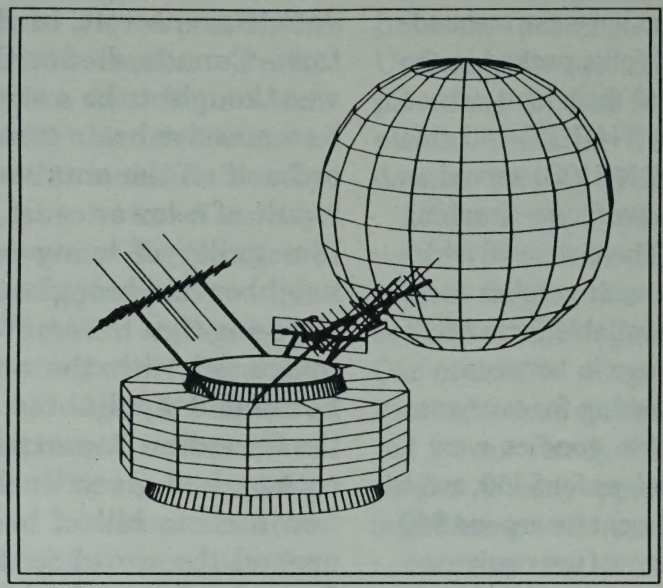
Continued from page 4

is a ham and is a crackerjack RF designer. He designed the MICROSAT transmitter in about the same time as Lens Crafters makes a pair of glasses. He had a breadboard up and running in less than a day. This guy came on board too late to have his name or call in the Symposium Proceedings or the program. All I know is that his call starts with YT3.



Power for the spacecraft is derived from solar cells which cover four faces of the satellite with a few more on the side where the 2 meter antenna is located. The solar cells charge eight NiCd batteries which provide 10 volts to the spacecraft. About 7 to 10 watts is available after accounting for eclipses and solar cell inefficiencies.

The 2 meter antenna is a monopole extending from the center of one face of the satellite. The 70 cm. antenna on the opposite face is four pieces of steel rule, each one extending from the face at a 45 degree angle.

A major construction and reliability problem in earlier amateur spacecraft has been a wiring harness which connected everything together with soldered connections. In MICROSAT, a 25 wire bus connects the modules together using ribbon cable and 25 pin D type connectors.

I've gone on about MICROSAT, probably because the concept is so new and the launch of four of the satellites is only months away. One other Symposium subject is more exciting to me but farther in the future. I'm speaking of the Phase 4 project - the one to place a couple of stationary satellites in orbit in three or four years. The general shape and size of the spacecraft has been defined and significant modeling has been done. It will be a 12 sided polygon about 88 inches across and about 26 inches deep. Circularly polarized antennas for 2 meters and 70 cm. will unfold in space. Antennas for 23 cm. and 13 cm. appear to be open ended waveguide but they are not necessarily true representations of the final configuration.

Models of many parts of the satellite have been built by students at the Center for Aerospace Technology at Weber State College in northern Utah. Dick Jansson, WD4FAB, is project administrator and has generated most of the mechanical design drawings so far, using Autocad. A sample of his work is shown above.

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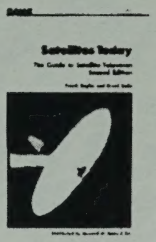

Satellites Today

Baylin and Gale

This general introduction discusses key concepts of the fascinating universe of satellite communications. The history of satellite communications, the cost of satellite systems, system components, legal questions that have been and remain to be decided, and up-to-date coverage of the latest developments in satellites are all examined here in terms any lay person could understand.

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RARS meets each first Wednesday, 7:30 PM
Raleigh YMCA, 1601 Hillsborough Street
Downtown Raleigh
RARS Net: Nightly at 8:00 PM on 146.04/64

Events Calendar

Dec. 2,3	ARRL 160 Meter Contest - CW
Dec. 7	Regular RARS Meeting w/ Amateur Exams 7:30 PM (contact Vince, AA4MY @ 847-8512 for exam pre-reg)
Dec. 10,11	ARRL 10 Meter Contest
Dec. 11	RARS Christmas Party 7:00 PM. Hosts: John (KK4JB) & Marlene (KC4CPC) Thomas. See map, front cover.
Dec. 21	RARS Advisory Board Meeting 7:30 PM @ YMCA - All Welcome Deadline for January EXCITER material.
Dec. 25	MERRY CHRISTMAS!!
Dec. 28	EXCITER Fold & Staple. Contact AA4MY @ 847-8512